

MATHEMATICS FOR ELEMENTARY TEACHERS II COURSE SYLLABUS Winter 2017

Course Information

- a. Number: Math 133
- b. Title: Mathematics for Elementary Teachers II
- c. Prerequisite: Math 132 or instructor consent
- d. Credits: 5
- e. This course is offered winter quarter

Personal Information

- a. Instructor: Polly Dupuis
- b. Office Location: Rm 127 Pete Beaverhead Science Building
- c. Office Hours: **Monday, Tuesday, Wednesday, and Friday:** 12:00 – 1:00
Thursday: 12:00 – 2:30; or by appointment
- d. Telephone: 275-4943 or 253-1325 (cell)
- e. E-mail: polly_dupuis@skc.edu

Required Materials

There will be no textbook for the course.

Description

This course is the second of a three-quarter sequence of important mathematics for elementary education majors. Topics include in the course: Ratio and Proportional Reasoning, Patterns, Functions, and Algebraic Reasoning.

The focus of the course will be to help you enhance your mathematics background. It will be taught differently from other mathematics courses you have taken in the past. The course will be based upon materials developed by the Mathematics Education Collaborative (MEC), Dr. Ruth Parker and the constructivist view of learning. Constructivism is a theory of teaching and learning that emphasizes the learner taking an active role in constructing her/his own learning as the learner interacts within an environment.

The goal of this course is for you to become mathematically powerful students and be competent and confident problem solvers. The content and experiences in the course will lead you toward this goal. As the instructor I will be to guide and support you as you make sense of mathematics. True understanding will only come when you make sense of a situation. My role is not to tell you everything about the subject, nor is it to answer all of the questions that will arise as you engage in problem solving. You will at times experience confusion and perhaps frustration. This is a natural part of the learning process. I will try to help you reflect and work your way out of confusion before your frustration becomes debilitating to your learning. Don't be afraid of wrong answers. You will not be put on the spot or embarrassed based on a response. Sometimes learning occurs by multiple attempts down wrong paths until you find a correct path.

You will learn while working in groups, with partners, and as an individual. Collaboration with others is a valued method of learning. Listening to others as you engage in collaborative problem solving will help you see a variety of points of view and several ways of solving a problem. In groups, you are not to ‘teach’ someone how to solve a problem and you are not to direct others to think in a certain way. Each person must think for her/himself and make sense of the situation. For many problems, I will insist that you not be satisfied with simply finding one way to solve a problem. Instead, I will push you solve problems in multiple ways. Getting the right answer is not the only goal in solving a problem. Understanding how you got to the answer is also an important goal, as is being able to communicate your understanding to others. While collaborative learning is desired, you are at the same time individually accountable for learning the material.

This is a 5 credit course so be ready to spend at least 15 hours per week working on the course materials. Following the SKC Credit Hour policy, to meet the identified objectives of this course over a 10 week term approximately **FIVE** hours per week should be spent for “class time” which consists of problem-solving, menu tasks, Can you see? activities, group tasks, all of which will address the Montana Common Core Standards and Standards of Mathematical Practices. Approximately, **TEN** hours per week will be spent out of class reading and reflecting on research based articles, problem-solving, reflecting, verify and researching mathematical content.

Attendance - Do not miss class!

In order to give yourself the best possible chance to succeed in this class, you need to attend every day. Everything we do builds on previous material. If you must miss a class, let me know ahead of time and then come see me later to discuss the missed material and assignments.

Objectives - Upon completion of the course students will:

1. General Course Objectives
 - a. solve a variety of math problems related to concepts taught in grades K-8.
 - b. define and use a variety of mathematics terms and concepts addressed in the course
 - c. apply problem solving strategies to a variety of situations.
 - d. develop and project a sincere interest in mathematics.
 - e. function effectively in a group problem solving environment.
2. Critical Thinking
 - a. develop the ability to interpret, quantify, and solve real-world problems.
 - b. appreciate the value of alternative approaches to problem-solving.
 - c. validate work with clear organization and explanation.
 - d. appreciate the value of productive struggle and the evaluation of incorrect response

3. Cultural
 - a. accept and appreciate a variety of mathematics backgrounds and abilities.
 - b. increase understanding of their own strengths and methods through interaction with diverse group of learners.
 - c. address the Essential Understandings regarding Montana Indians
4. Communication
 - a. discuss, justify, and verify solutions
 - b. learn to convey mathematical ideas through oral and written communication
 - c. organize and consolidate mathematical thinking
 - d. communicate mathematical thinking coherently and clearly to peers, teachers, and others
 - e. analyze and evaluate the mathematical thinking and strategies of others
 - f. use the language of mathematics to express mathematical ideas precisely

Course Requirements

1. Class attendance and participation. Participation is a key part of the course and you can't participate if you are not here!
2. Complete individual menus of problems, group tasks, and homework problems.
3. Homework is primarily for reinforcement and extension of class sessions.
4. Complete article reviews and other readings.
5. Complete all assessments.
6. Have a positive and productive disposition toward yourself, your classmates, and mathematics. Be respectful of fellow classmates and the instructor as you share ideas.

Grading

Your final grade will be determined according to a standard percentage scale (90-100=A, 80-89=B, 70-79=C, 60-69=D, 0-59=F) with points distributed as follows:

• Math Menus	25%
• Participation, Attendance, Effort and Persistence*	5%
• Homework Assignments Article Reviews and Discussions	20%
Performance Assessments	50%

*Points for participation, attendance, effort, and persistence are intended to reward students who put forth a maximum effort and demonstrate persistence in problem solving. The instructor will use his/her best professional judgment in awarding the 5% for this item based on a student's full participation in class activities, attempts at completion of challenging tasks, and may be influenced by a student's attempts or non-attempts at dessert items from the menu problems.

** The instructor reserves the right to be generous to borderline people who have attended regularly and made an outstanding effort.

Retaking Tests

Tests or portions of the test may be retaken, on an individual basis, at the student's discretion. In order to retake a test you must submit test corrections, schedule and attend instructor led tutoring session(s) and show understanding of the content. The retake must be taken within 2 weeks after the scored test has been returned to you. Your replacement grade will be the grade you received on the retake, but in no event is the replacement grade to exceed **80%**.

Policy Regarding Late Assignments/Revisions

Late work will not be accepted without PRIOR instructor approval. No revisions will be possible unless requested by the instructor. If the instructor requests a revision of an assignment, the grade you receive will be the grade on the last attempt.

Policy Regarding Cell Phones

Cell phones should be put in book bags, purses, or other concealed location and should not be seen or heard by the instructor during class time. If you have EXTENUATING circumstances requiring that you are accessible by phone, let the instructor know.

The faculty reserves the right to change the course syllabus or course content. Students will be provided advanced notice of changes in writing.

Reasonable Accommodations:

Reasonable accommodations are provided for eligible students with identified disabilities. The College complies with the Rehabilitation Act of 1973 and the Americans with Disabilities Act. Students may contact the College's Disability Officer, Linda Pete (linda_pete@skc.edu, 406.275.4968) or consult the SKC web page for Students with Disabilities for more information.

Title IX: The U.S. Department of Education's Office for Civil Rights (OCR), enforces Title IX of the Education Amendments of 1972. Title IX protects people from discrimination based on sex in education programs or activities that receive Federal financial assistance. Title IX states that:

No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance.

All employees at SKC are considered "**Responsible Employees**" which requires them to report incidents of gender-based discrimination (sexual violence, sexual harassment, rape, sexual assault, domestic violence, and/or stalking). In accordance with Title IX laws, students must be made aware of the following: If any employee of SKC, including instructors, learns of any potential gender-based discrimination, they are required to notify the Title IX Coordinator, **Rachel Andrews-Gould** (275-4985, located in BigKnife Building), immediately. Once an incident is reported to Title IX, the student will be contacted by the Title IX Coordinator for follow up.

Students can also report directly to the Title IX coordinator in regards to any gender-based discrimination.

If any student wants to speak with someone confidentially, the following resources are available:

Center for Prevention and Wellness Agnes Kenmille Building Building #51 406.275.4913 or 406.275.4744	SAFE Harbor Advocacy Services 24-Hour Advocacy 406.676.0800
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Speaking with a confidential resource does not preclude students from making a formal report to the Title IX Coordinator if and when they are ready. In the confidential setting, students will be made aware of available resources and reporting options. An advocate is available for all students upon request through the Center for Prevention and Wellness.

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